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A monthly publication of the Batten College of Engineering and Technology

# illuminator

volume 3, issue 7



## E3

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themselves in engineering fields pg. 2

**PLUS:**

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## ODU

Batten College of  
Engineering and Technology



# WE<sup>2</sup>

Women Excelling in Engineering

## EVENT

# 2020



**The third annual Women Excelling in Engineering (WE<sup>2</sup>) workshop was a great success.** Current and aspiring women engineers gathered at the Webb Center at Old Dominion University for informative panel discussions and inspirational talks by professional guest engineers. *(Photos by Sarah Considine)*

[SEE MORE PHOTOS HERE:](#)





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## Engineers Week 2020 a success

by Sherry DiBari



Left, an overview of the HRBT Expansion Project included a presentation on tunnel boring.

many students.

Freshman Marcellus Sheffield learned about the different disciplines within engineering. "My favorites were civil and mechanical engineering," Sheffield said.

Volunteer Natalie Pham, a senior electrical engineering student in the accelerated master's program, noted the value in students being able to ask questions one-on-one.

"I think the freshmen get a little more insight about what each major entails. You can go to professors and ask questions but you can really know more information by hearing it from other students and their experience in their major," Pham said.

Lab tours for K-12 students, educators and parents were also a major highlight of the week.

Due to inclement weather, Girls Night Out was held on March 2 and the laboratory tours of Kaufman Hall, the Engineering Systems Building and the E.V. Williams Engineering & Computational Sciences building were held on Feb. 28.

**A**nother successful celebration of National Engineers Week (EWeek) brought together ODU Engineering students, faculty and even alums to showcase how the Batten College of Engineering and Technology is advancing the engineering profession in Hampton Roads and beyond.

Founded in 1951 by the National Society of Professional Engineers, EWeek is dedicated to "increasing understanding of and interest in engineering and technology careers."

Events at ODU included special events for current engineering students including cookies and cocoa with the deans, an exploration of engineering majors, a presentation on the pioneering technology of the Hampton Roads Bridge-Tunnel expansion project and an Engineering Gala of dancing and dining aboard the Spirit of Norfolk.

On day two, freshman engineering students spent a few hours exploring majors in the Engineering Systems Building. Students were able to meet with professors and speak with students about engineering clubs. The robotics and motorsports booths were popular with



A local female engineer representing the American Society of Civil Engineers shares information to young students attending Girls Night Out.

Girls Night Out offered middle and high school girls a chance to learn about engineering and to meet female engineering mentors from several engineering firms and organizations from throughout Hampton Roads.

See more in this short video:



ABBIE DEAN  
Senior, Civil Engineering

[tinyurl.com/ODUEWeek2020](https://tinyurl.com/ODUEWeek2020)

  
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# E3 event helps minority students see themselves in engineering fields

by Keith Pierce

**T**he Batten College of Engineering and Technology hosted Old Dominion University's first Early Engineering Experience (E3) event, part of a Virginia and North Carolina partnership. The Louis Stokes Alliances for Minority Participation (LSAMP) program, an alliance-based program funded by the National Science Foundation (NSF), was created to assist universities and colleges in diversifying the nation's science, technology, engineering and mathematics (STEM) workforce by increasing the number of STEM baccalaureate and graduate degrees awarded to historically underrepresented populations.

"Though ODU is doing better than most public universities in Virginia in terms of attracting African American and other underrepresented minorities into STEM fields, there is still a lot of room for improvement," said Rafael Landaeta, associate dean of the college and principal investigator of the grant. "The E3 program is just one of several proactive programs under this grant aimed at addressing the disparity."

From lab tours to networking, 10 African American high school students spent three days at ODU. The students from Hampton Roads as well as from the Richmond area experienced life as engineering students as they met with current engineering students, explored engineering organizations and engaged in cultural and recreational events. Student mentors shared their experiences, answered questions and provided insights into STEM fields.

"There seems to be a stigma around what engineers look like – what color, what gender," said Danielle Carter, a junior majoring in electrical engineering, who conceptualized and led the three-day event. "I believe it's important to expose all students to the endless possibilities that exist in engineering and to show them that anyone can do it as long as they have the heart."

Since the \$200,000 LSAMP grant was funded, nearly a dozen programs have benefitted. According to Landaeta, the College plans to continue the E3 event annually.

"These initiatives demonstrate the strong commitment of Old Dominion University



*Above, high school junior, Dinachi Utah enjoys modeling and simulation lab. Bottom right, civil engineering junior and E3 mentor Montavious Gatlin (right) observes high school student Noah Arjona in the same lab.*

to serve underrepresented minorities in STEM, the positive vision and values of ODU engineering students, and the solid support of the National Science Foundation to the Batten College of Engineering and Technology," he said.

Engineering students involved also included Abbie Dean, Renee Mystique Owens, Montavious Gatlin, and Amadu Koroma.





# ALUMNI SPOTLIGHT: CARRIE SHEPHEARD

## Civil engineering alum named VDOT resident engineer in Charlottesville

Source: Augusta Free Press

**C**arrie Shephard has been named Resident Engineer for the Virginia Department of Transportation's Charlottesville Residency, which is responsible for VDOT operations in Albemarle, Greene and Madison counties.

Shephard will succeed Joel DeNunzio, who was recently appointed District Maintenance Engineer for VDOT's Staunton District.

"We are fortunate to have Carrie join our executive leadership team," said District Engineer John D. Lynch. "She brings significant experience with both VDOT and the private sector to this position. Her previous leadership

positions in the Lynchburg District involved similar work so she is familiar with the activities and issues that she'll manage in Charlottesville and will be as successful here as she has been in her past positions."

Shephard previously served as assistant resident engineer, acting resident engineer and land use engineer at the Farmville Residency in Lynchburg District. Her prior experience also includes work on the Downtown/Midtown Tunnel in Hampton Roads, storm water and hydraulics engineering and highway design.

She is a licensed professional engineer, holds undergraduate and master's degrees in environmental engineering from Old Dominion University and is

a graduate of VDOT's Leadership Excellence and Development program.

As resident engineer, Shephard will be responsible for VDOT's day-to-day activities in the Charlottesville Residency's three counties and the work done by the six area headquarters that serve Albemarle, Greene and Madison counties.

The residency and area headquarters staff perform maintenance, land use, contract management and maintenance project development and delivery through the local offices.



## VDOT commissioner foresees collaboration

by Sherry DiBari

**V**irginia Department of Transportation (VDOT) Commissioner and Old Dominion University alum Stephen Brich '92 said during a visit to University on Feb. 14 that he sees plenty of potential collaborations between the department and ODU students.

"I think there is a tremendous amount of opportunity here in the Hampton Roads region as a learning laboratory for (students) to get hands-on experience on everything from the geotechnical side, the structural side, as well as traffic operations, safety and data analytics," said Brich, who is from Hampton Roads.

Brich met with President John R. Broderick as well as Ben Stuart, interim dean of Batten College of Engineering and Technology.

Sherif Ishak, professor and chair of the department of civil and environmental

engineering, and Mecit Cetin, director of the Transportation Research Institute, presented an overview of their departments and transportation projects.

Three transportation-focused engineering students, Abbie Dean, Joe Fawzy and Dania Dheyab, had one-on-one discussions during lunch with Brich.

Brich, who began his career as an engineering technician in Norfolk, oversees a \$6.4 billion annual budget and a team of 7,700 people responsible for Virginia's "58,000 miles of roadway, 21,000 structures and bridges, six tunnels and three ferry systems."

He has 26 years of experience in transportation and previously held several senior roles with VDOT, including senior research scientist, assistant state traffic

*Stephen Brich, center, speaks to a civil engineering student Joe Fawzy.*

engineer and director of operations. He was a vice president with Kimley-Horn and Associates prior to his appointment.

Brich holds a bachelor's degree in civil engineering from Old Dominion University and a master's degree in civil engineering from the University of Virginia. He is a licensed professional engineer in Virginia and Maryland.

"The technical foundations I received at Old Dominion prepared me well for where I went," Brich said.



# ODU partners with Hampton Roads Community Foundation to speed severe weather recovery



by Joe Garvey

**O**ld Dominion University is partnering with the Hampton Roads Community Foundation in a significant regional effort to lessen the expected displacement of vulnerable populations following damaging hurricane winds and flooding.

ODU researchers at the Virginia Modeling, Analysis and Research Center (VMASC) will use a five-year, \$500,000 grant from the foundation to help establish Recover Hampton Roads (RHR), an organization that will focus on speeding housing repair and recovery.

ODU researchers will begin developing a Convergence, Inventory, Matching & Assignment (CIMA) platform, which is the linchpin to the objectives of RHR.

"This is an important effort not just for the region, but nationally as the management platform is innovative and addresses a known gap in recovery efforts and may be deployed in other coastal areas," said Joshua G. Behr, research associate professor at VMASC. He is leading the effort with Rafael Diaz, who specializes in solutions to manage the complexity inherent in dynamic supply-chain environments.

"The CIMA tool will facilitate the management of converging volunteer labor and donated materials flowing into Hampton Roads, and the matching of these with damage assessments that

estimate the labor and materials needed to make the home basic-functional (so that a household may again quickly occupy the home rather than be displaced), the generating of repair work packages, and the prioritizing and scheduling of repairs within a resource-dynamic environment," Diaz said.

RHR is focused on harnessing best practices and developing an organization ahead of time that has the tools, knowledge and leadership necessary to anticipate and take immediate action, coordinating material and labor that begins to converge even prior to a severe weather event making landfall, and sustaining that effort throughout the longer-term recovery. Over time the ODU team will be engaging municipalities, nonprofits and other stakeholders within Hampton Roads.

"Coastal resilience is one of the most serious issues facing our region, and ODU is becoming a leader in this arena. The Hampton Roads Community Foundation awarded this five-year grant after seeing how people in other coastal regions struggled when hurricanes devastated their neighborhoods," said Deborah M. DiCroce, president and CEO of the Hampton Roads Community Foundation. "ODU's innovative efforts will put systems in place to help area residents living in economically stressed neighborhoods quickly recover when disaster strikes."

The Hampton Roads Community Foundation is the largest grant and scholarship provider in southeastern Virginia. Since its founding in 1950 it has put more than \$301 million into action helping improve the region through grants and scholarships.

VMASC is an enterprise research center of ODU focusing on advances in modeling and simulation, data analytics, and cybersecurity.

## FACULTY SPOTLIGHT: HOLLY HANDLEY



**H**olly Handley, PhD, PE, associate professor, Engineering Management & Systems Engineering, had the honor to serve as a keynote speaker at the National Defense Industrial Association (NDIA) Human Systems Conference in Arlington, Virginia. The 2020 conference, centered on Human Systems within Multi-Domain Operations, explored a variety of relevant and game-changing topics: Human Systems Integration (HSI), Human Factors Engineering, Human Performance, Human-Agent Teaming, and Human Systems and Artificial Intelligence.

Handley is currently part of the committee developing HSI industry-wide standards and was also a member of the original NATO panel to develop the Human Viewpoint for system architecture development.

The *illuminator* is a publication of the Batten College of Engineering & Technology.

Ben Stuart, Ph.D., P.E., interim dean

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